Interim Forest Management Plan
Douglas Hallock & James J. Rule Demonstration Forests

Property Identifiers

Property Name and Designation: **DOUGLAS HALLOCK DEMONSTRATION FOREST**
JAMES J. RULE DEMONSTRATION FOREST

County: **GRANT**
IOWA

Property Acreage: **449 - Hallock**
86 - Rule

Forestry Property Code(s): **2207 - Hallock**
2503 - Rule

Master Plan Date: **None. Master Planning has not been scheduled for either property.**

Part 1: Property Assessment

GENERAL PROPERTY DESCRIPTION

The **Douglas Hallock Demonstration Forest** is located in Grant County approximately 1.5 miles southwest of the Village of Millville. The property contains 447 acres of forest land and 2 acres of easement. The area is open to public use such as hunting, fishing, and hiking.

The **James J. Rule Demonstration Forest** is located in Iowa County approximately 8 miles northwest of Dodgeville. The property contains 86 acres of forest land.

The purpose of both properties as demonstration forests is to provide an example of a well managed oak type forest as part of the existing timber demonstration forest program for southwest Wisconsin.

- **LANDSCAPE AND REGIONAL CONTEXT**

  Both the Douglas Hallock Demonstration Forest (DHDF) and the James J. Rule Demonstration Forest (JRDF) are located in the **Western Coulee and Ridges Ecological Landscape** (WCREL) and both have the following Landtype Association: 222Lc18 (Hills and Valleys – Wisconsin River Drainage) which is characterized by well drained and moderately well drained silty and loamy soil with a silt loam or sandy loam surface over noncalcareous clayey or loamy residuum or over silty loess; most areas over limestone, sandstone, or shale bedrock.

  The Western Coulee and Ridges Landscape is characterized by its highly eroded, unglaciated topography with steep sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces. Ancient sand dunes occur on some of the broader terraces along the Mississippi and Wisconsin rivers.

  Historical vegetation in this landscape consisted of southern hardwood forests, oak savanna, scattered prairies and floodplain forests and marshes along the major rivers. With Euro-American settlement, most of the land on ridgetops and valley bottoms was cleared of oak savanna, prairie, and level forest for agriculture. The steep slopes between valley bottom and ridgetop, unsuitable for raising crops, grew into oak-dominated forests after the ubiquitous presettlement wildfires were suppressed.

  Current vegetation is a mix of forest (41%), agriculture (36%), and grassland (14%) with wetlands (5%) mostly in the river valleys. Primary forest cover is oak-hickory (51%). Maple-basswood forests (28%), dominated by sugar maple, basswood and red maple, are common in areas that were not

burned frequently. Bottomland hardwoods (10%) dominated by silver maple, swamp white oak, river birch, ashes, elms, and cottonwood are common within the floodplains of the larger rivers. Relict "northern" mesic conifer forests composed of hemlock, white pine and associated hardwoods such as yellow birch are rare but do occur in areas with cool, moist microclimates. Dry rocky bluffs may support xeric stands of native white pine, sometimes mixed with red or even jack pine. Prairies are now restricted to steep south- or west-facing bluffs, unplowed outwash terraces along the large rivers, and a few other sites. They occupy far less than 1% of the current landscape. Mesic tallgrass prairies are now virtually nonexistent except as very small remnants along rights-of-way or in cemeteries.

- **PROPERTY CONTEXT/LANDSCAPE**

  Contextually, the **Douglas Hallock Demonstration Forest**, while not itself within the official boundary of the Lower Wisconsin State Riverway, is adjacent to the LWSR and is thus influenced by some of the same resource designations and management implications, including being within the boundaries of the Lower Wisconsin Bluffs and Floodplains Conservation Opportunity Area (COA).

  The **James J. Rule Demonstration Forest** is on the southern edge of the Dodgeville Wyoming Oak Woodlands and Savanna Conservation Opportunity Area (COA) located in the Western Coulees and Ridges Landscape.

- **HISTORY OF LAND USE AND PAST MANAGEMENT**

  The land which is now the **Douglas Hallock Demonstration Forest** was private farmland until the mid-1980's, when the state bought the property. Historically, dairy was the main emphasis during the years 1866 to 1958. The property was part of two farms later combined into one farm. The total forestland cleared for cropland was 59 acres. Beef were raised from about 1920 to 1940. In 1959, cattle were removed and the cropland was entered under the Conservation Reserve Program.

  In 1959 to 1961 the fields were planted to trees. Red pine was planted on the uplands and white spruce on the valley fields, with 500 walnut scatter planted near the parking lot. The spruce failed due to inadequate early management as did the walnut seed interplanted later with red pine in low survival areas. A new landowner replanted the valley fields to walnut/white pine in 1968.

  Since the DNR purchased the property in 1984 there have been several timber sales to regenerate oak. In these areas, oaks were planted and for the most part these have regrown to oak forests. Via grants and timber sales, an excellent road and trail system has been developed throughout the property.

  Most recently, strip clearcuts and a two stage shelterwood system have been implemented in order to regenerate oak. These areas were planted with oak and walnut to supplement natural regeneration. There will be continued grant funded site preparation and planting work done in the strip clearcut areas to insure adequate oak regeneration. Recent monitoring of oak regeneration in the shelterwood has shown more than adequate seedling stocking. Pending approval, these two areas will see an overstory removal in areas needing release by 2015. This will insure an oak forest in the future in a landscape where oak stands are declining.

  The **James J. Rule Demonstration Forest** was private farm land used as pasture until the state purchased the property as a demonstration forest in the early 1967. The forest contains significant large, high quality and value walnut, which is a primary management concern. There have been a number of timber sales completed to regenerate hardwoods while emphasizing walnut regeneration. A 20 acre overstory removal was completed in approximately 1980 with significant regeneration of walnut; however, walnut was overtopped by other hardwoods and did not survive. Recent management is emphasizing small gaps with deer protection, and a salvage harvest of large walnut occurred due to accumulated storm damage.

SITE SPECIFICS

- ***Current forest types, size classes and successional stages:***

  Douglas Hallock Demonstration Forest

  - Forested cover types total 447 acres (99%) of total recon acres.
  - Oak (82%) 366 acres of 80-120 year old oak in the 15+ inch size class
  - Central Hardwoods (9%) 42 acres of 1-100 year old stands ranging in all size classes from seedlings to 15+ inch trees
  - Red Pine (6%) 26 acres of 50 year old trees in the 9-15 inch size class
  - White Pine (2%) 9 acres of 50 year old trees in the 9-15 inch size class
  - Walnut (~1%) 4 acres of 90 year old 15+ inch trees
  - Non forested acreage accounts for less than 1% of the total acreage for the property.

  James J. Rule Demonstration Forest

  - Forested cover types total is 100% of the 86 recon acres.
  - Oak (64%; 55 acres) and Central Hardwoods (31%; 26 acres) cover types are greater than 100 years of age.
  - The walnut stand (6%; 5 acres) is 45 years old.

- ***Wildlife Action Plan / Species of Greatest Conservation Need****:* Neither DHDF or JRDF are specifically listed in the DNR's Wildlife Action Plan's Implementation document for the Western Coulee and Ridges Ecological Landscape (WCREL) (http://dnr.wi.gov/topic/WildlifeHabitat/COA.html). However, one natural community type – Southern Dry-mesic Forest – is found on both properties, for which there are "major" opportunities for protection, restoration or management.

  In addition, oak forests (which are also present on both properties) are an important resource for several important resident bird species along with other neo-tropical migratory songbirds. Insects that feed on oak buds and during leaf out, along with the structure of large oak trees create prime habitat for these birds during bird arrival and migration. The presence of oak forests is important for neo-tropical songbirds, making continued management and regeneration of the oak type necessary for future populations.

  Priority Species of Greatest Conservation Need for the WCREL associated with the community and habitat types on each property include Acadian Flycatcher, Blue-winged Warbler, Cerulean Warbler, Hooded Warbler, Kentucky Warbler, Louisiana Waterthrush, Red-headed Woodpecker, Whip-poor-will, Wood Thrush, Worm-eating Warbler, Yellow-throated Warbler, Black Rat Snake, Bullsnake, Northern Prairie Skink, Ornate Box Turtle, Prairie Ringneck Snake, Timber Rattlesnake, Western Worm Snake, Yellow-bellied Racer, Gray Fox, and Woodland Vole.

- ***Conservation Opportunity Area (COA) designations***: The DHDF, while not specifically identified within the 2005 Wisconsin Wildlife Action Plan, does physically lie within the **Lower Wisconsin Bluffs and Floodplain COA**, which is recognized as COAs of Continental Significance because of the large river system that includes riparian natural and upland natural communities that support numerous Species of Greatest Conservation Need. As such, this property could be considered to have Continental Significance. Additionally, the DHDF property contains the Southern Dry-mesic Forest and Southern Mesic Forest community types which are typical features found in the Driftless area and should be considered when managing the area.

  Similarly, the JRDF is not specifically mentioned in the Wildlife Action Plan as part of a COA; however, it does lie within the boundary of the **Dodgeville and Wyoming Oak Woodland/Savanna COA** which is considered a Driftless Area Feature of Continental Significance.

- ***Natural Heritage Inventory (NHI) / Rare species:*** Both properties contain Southern Dry-mesic Forest as a natural community with major opportunities for protection, restoration or management. In addition, the DHDF contains at least 2 State Threatened bird species as well as a Bird Rookery within

the property boundary. JRDF does not have any additional records of rare species. Prior to all future management activities NHI screenings will be conducted for rare species and natural community types.

- ***State Natural Area designations:*** Neither property contains a State Natural Area designation.
- ***High Conservation Value Forests (HCVF) or other resources / natural community types limited in the landscape:*** While there are no officially designated HCVFs on either property, within the WCREL, Southern Dry-mesic Forest is listed as a natural community with major opportunities for protection, restoration and management, and is found on both properties.
- ***Biotic Inventory status (see website):*** A Biotic Inventory has not been completed for these properties.
- ***Deferral/consultation area designations:*** Deferral/consultation area designations have not been identified on these properties.
- ***Invasive species:*** Low Levels of buckthorn, garlic mustard, muliflora rose, and honeysuckle exist throughout both the DHDF and the JRDF.
- ***Soils:*** On the DHDF, soils have formed mainly from the loess rather than underlying rock; however weathering St. Peter sandstone mixed with loess on upper slopes as it was deposited. The valley area soils are made up of loess mixed with outwash from the watershed.

  The soils at the JRDF are Dubuque series that are moderately deep, well drained soils formed from loess over limestone bedrock. These soils are on ridges and side slopes on uplands. Slopes range from 2 to 60 percent.

CULTURAL AND RECREATIONAL CONSIDERATIONS

- ***Cultural and archeological sites (including tribal sites):*** No known cultural or archeological sites found on the DHDF or the JRDF properties.
- ***Recreational uses:*** Hunting is one of the heaviest uses of the DHDF property. Numerous trails around the property provide access to hunters as well as hikers and bird watchers. Hunting is the primary recreational use of the JRDF. Access is on roads and trails that were developed for forest management.

Part 2: Future Management

FOREST MANAGEMENT OBJECTIVES (Outline primary forest management objectives):

With all forest management objectives, there are several more universal objectives that can be attained including options such as increasing large snags and coarse woody debris, controlling the spread of invasive plant species and consideration for Wildlife Action Plan priorities and management of SGCNs. The Riverway is identified as a Priority Conservation Opportunity Area in the state's Wildlife Action Plan. Integrating Priority Actions from Wisconsin's 2005-2015 Wildlife Action Plan to the extent possible within framework of the existing Master Plan, or avoiding actions that might preclude successful implementation of these actions in the future is recommended.

Douglas Hallock Demonstration Forest

(1) The production of high quality saw logs at maximum growth rate is the highest priority for the property. Oak is the dominant merchantable cover type. Management will include other merchantable, compatible species whenever possible, including reforestation work.

a. Veneer production will be the goal unless specifically stated otherwise. Oak and walnut will normally receive the benefit of management when site conflict occurs.
b. Sawlogs of all merchantable species will be harvested when economically feasible from all stands. Management will favor of oak, walnut, and high value species or softwoods in established plantations.

(2) Maintain oak cover types where feasible

a. Diversify age classes-regenerate stands so that all age classes of oak are represented on the property
b. Thin to achieve larger diameter trees
c. Increase course woody debris
d. Crop tree release oak in young stands

(3) Emphasize importance of forest interior songbirds

(4) Thin scattered pine plantations to promote growth and maintain for forest diversity

(5) Control invasive species as needed

(6) Continued management and possible expansion of small prairie openings in oak woodlands. Prescribed fires have been previously used in these areas to benefit native prairie species.

James J. Rule Demonstration Forest

(1) The production of high quality sawlogs at high growth rate is the highest priority use for the property. Oak is the dominant merchantable cover type and a specific objective of the property is to manage for high quality walnut and other hardwoods. Management will include other merchantable, compatible species whenever possible, including reforestation work.

a. Veneer production will be the goal unless specifically stated otherwise. Oak and walnut will normally receive the benefit of management when site conflict occurs.
b. Sawlogs of merchantable species other than oak and walnut will be harvested when economically feasible from all stands. They will be discriminated against in favor of oak, walnut.

(2) Maintain oak cover types with a component of walnut where feasible

a. Diversify age classes-regenerate stands so that all age classes of oak are represented on the property
b. Thin to achieve larger diameter trees
c. Increase course woody debris
d. Crop tree release walnut and oak in young stands

(3) Emphasize importance of forest interior songbirds

(4) Control invasive species as needed

PROPERTY PRESCRIPTIONS (Identify specific and pertinent prescriptions by area or forest type, including passive management areas, extended rotation, and other information that will help achieve the objectives):

Douglas Hallock Demonstration Forest

(1) **Oak** - Maintain oak cover types by conducting regeneration harvests in stands suitable for oak. Shelterwood and strip clearcuts are already in use at the property. Plant oak seedlings in these areas where natural regeneration is lacking. When regeneration is adequate, remove shelterwood trees and conduct regeneration harvests once stand rotation age is reached. Sale design will consider effects on forest interior songbirds.

(2) **Pine** – Sell pine plantation thinnings when age appropriate and markets allow. Maintain pine as long as possible for forest diversity.

(3) **Central Hardwoods** – If there is a walnut component to any central hardwood stand, these will take priority in management. Although this property main objective is to promote oak, this does not necessarily mean the stand will be converted to oak. Central hardwood stands will be allowed to remain if site is not suitable for oak or other merchantable species exist.

(4) **Walnut** – Grow large high quality walnut to demonstrate to the public the economic benefits of growing large diameter walnut.

James J. Rule Demonstration Forest

(1) **Oak** - Maintain oak cover types by conducting regeneration harvests in stands suitable for oak and emphasize walnut regeneration. Shelterwood and strip clearcuts are already in use at the property. Plant oak and walnut seedlings in areas where natural regeneration is lacking. When regeneration is adequate, remove shelterwood trees and conduct regeneration harvests once stand rotation age is reached. Sale design will consider effects on forest interior songbirds.

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(3) **Walnut** – Grow large high quality walnut to demonstrate to the public the economic benefits of growing large diameter walnut.

ALL STANDS – The Wildlife Action Plan describes Priority Conservation Actions that make effective use of limited resources and address multiple species with each action. Implementing these actions and avoiding activities that may preclude successful implementation of these actions in the future would greatly benefit SGCNs within the LWSR. All proposed forestry prescriptions should reference Priority Conservation Actions, Wildlife Action Plan priorities, property objectives and be based on individual stand level needs.

APPROVALS:

_____
District Ecologist Date

_____
Forester Date

_____
Property Manager Date

_____
Area/Team Supervisor Date